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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/614,098	07/03/2003	Richard Kai-Tuen Woo	60877-0039	7401

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EXAMINER

KIM, KEVIN

ART UNIT PAPER NUMBER

2611

DATE MAILED: 06/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/614,098

Applicant(s)

WOO ET AL.

Examiner

Kevin Y. Kim

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 March 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-41 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,13,18-22,34,40 and 41 is/are rejected.
- 7) ☒ Claim(s) 2-12,14-19,23-33 and 35-39 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|-----------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments, filed March 17, 2006, with respect to the rejection(s) of claim(s) 1, 13, 22 and 34 under **35 USC § 102** have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Heath et al (US Patent application publication No. 2002/0080735).

Claim Rejections - 35 USC § 103

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 1, 13, 22 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over McCrady et al (previously cited) in view of Heath et al (US Patent application publication No. 2002/0080735).

Claims 1 and 22.

McCrady et al discloses a positioning system and method, comprising a plurality of device, each including;

a transceiver for exchanging RF signals with another device, see Fig.5

local clock for generating a local clock signal (col.9, line 56),

receiver logic for determining a time of arrival of the message from the other device, see col. 8, lines 17-19,

transmitter logic for transmitting message including information representing the determined time of arrival to the other device, see col. 8, lines 19-24, and

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a ranging logic for determining a respective range as a function of the determined time of arrival of the message and the time of arrival information in the message. See col.8, lines 24-27.

Claimed invention is different from McCrady et al in that the messages are transmitted during assigned time slots whereas McCrady describes a CSMA-CA protocol for multiple access. However, TDMA that assigns time slots to respective communication devices are equally well known in the art as a multiple access protocol among others including CSMA-CA, as evidenced by Heath et al (see paragraph [0036]). Furthermore, McCrady et al suggests that other multiple access protocols could be used by stating that that the description of the invention using CDMA-CA is not limiting. See col.7, line 51. Thus, it would have been obvious to one skill in the art at the time the invention was made to use TDMA as a multiple access protocol in McCrady et al's system, where messages from each communication devices are transmitted on assigned time slots.

Claims 13 and 34.

McCrady et al describes a prior art positioning system and method, comprising;
a receiver for receiving a message from another device,
a local clock generator
receiver logic for determining a time of arrival of the message,
ranging logic for determining a respective range to the another device as a
function of the determined time of arrival and

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clock synchronization logic for adjusting the local clock synchronized with the local clock of the another device. See col. 2, line 34 ~ col.3, line 16.

Claimed invention is different from McCrady et al in that the messages are transmitted during assigned time slots whereas McCrady describes a CSMA-CA protocol for multiple access. However, TDMA that assigns time slots to respective communication devices are equally well known in the art as a multiple access protocol among others including CSMA-CA, as evidenced by Heath et al (see paragraph [0036]). Furthermore, McCrady et al suggests that other multiple access protocols could be used by stating that that the description of the invention using CDMA-CA is not limiting. See col.7, line 51. Thus, it would have been obvious to one skill in the art at the time the invention was made to use TDMA as a multiple access protocol in McCrady et al's system, where messages from each communication devices are transmitted on assigned time slots.

4. Claims 19 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over McCrady et al in view of Heath et al, as applied to claims 13 and 34 above.

Claims 19 and 40.

These claims requires that the adjusting the local clock "with a precision better than on thousands of a clock cycle." However, how precisely synchronize the clock signal is a obvious matter of design choice and thus the claimed precision would have been obvious to one skilled in the art at the time the invention was made for the purpose of synchronizing the communication devices as much as possible. 0.

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5. Claim 20, 21 and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over McCrady et al in view of Heath et al, as applied to claim 19 above, further in view of Eidson (previously cited).

McCrady et al discloses all the subject matter claimed but is silent on the details of the local clock as opposed to the claimed invention which requires a counter updated at a rate controlled by a local oscillator. Eidson teaches implementing a local clock as a counter driven by an oscillator. See col. 3, lines 36-45.

Allowable Subject Matter

6. Claims 2-12, 14-18, 23-33, 35-39 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Y. Kim whose telephone number is 571-272-3039. The examiner can normally be reached on 8AM --5PM M-F.

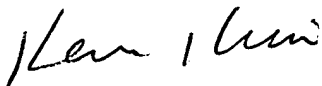
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on 571-272-2988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

June 8, 2006

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**KEVIN KIM
PATENT EXAMINER**